transactions of the

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Manchester	Manchester College of Science and Technology
Newcastle Upon Tyne	North East Coast Institute of Engineers and Shipbuilders

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München	Bibliothek des Deutsches Museums

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Rotterdam	Nationaal-Technische Instituut voor Scheepvaart en Luchtvaart

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Series B, *Journal of Engineering for Industry*
Series C, *Journal of Heat Transfer*
Series D, *Journal of Basic Engineering*
Series E, *Journal of Applied Mechanics*
Series F, *Journal of Lubrication Technology*
Series G, *Journal of Dynamic Systems, Measurement and Control*
Applied Mechanics Reviews, monthly
Applied Mechanics Reviews, Annual Index, 1972

Publications Issued in 1972

BOOKS AND REPORTS

Advanced Centrifugal Compressors
Annals of Reliability and Maintainability
Applications of Holography in Mechanics
Applied Mechanics Aspects of Nuclear Effects in Materials
Cavitation Forum—1971
2¼ Chrome 1 Molybdenum Steel in Pressure Vessels and Piping
Computer Software in Structural Analysis
Design for Elevated Temperature Environment
Diesel and Gas Engine Power Proceedings—1970
Engineering Computer Software: Verification, Qualification, Certification
Environmental and Geophysical Heat Transfer—Volume 4
Freight Car Impact—Volume 1
Fluid Dynamic Measurements
Fluid Meters, Their Theory and Application
Heat Transfer in Low Reynolds Number Flow—Volume 5
Life Adjustment Factors for Ball and Roller Bearings—An Engineering Design Guide
North American Fuel Technology
Rail Transportation Proceedings—1971
Recent Developments in Thermophysical Properties Research—Volume 3
Report on Diesel and Gas Engine Power Costs—1971
Role of Nucleation in Boiling and Cavitation—Discussions Only
Spent Nuclear Fuel Heat Transfer—Volume 2
Survey of Nucleonic Heat Transfer—Volume 1
Synthesis of Vibrating Systems

PERFORMANCE TEST CODES

Code on Definitions and Values

How To Find Papers Presented at 1972 ASME Meeting

The technical programs of the meetings of the Society and of its Professional Divisions have been published in MECHANICAL ENGINEERING and may be located by consulting the index on page SR-21. Many of these papers will be published in MECHANICAL ENGINEERING or the *Transactions* and may be located by reference to the indexes of these publications.

Currently Available ASME Publications

ASME members may purchase most of the publications listed below at a 20 percent discount. Handling and mailing charges are added to price when payment does not accompany order.

American National Standards

ELEVATOR CODES & GENERAL STANDARDS

A13.1—1956 Scheme for the Identification of Piping Systems (L33) $2.00
A17.1—1971 Elevators, Dumbwaiters, Escalators and Moving Walks (A31) $11.75
A17.2—1960 Practice for the Inspection of Elevators-Inspectors' Manual (With 1956 and 1967 Addenda) (A32) $5.25
1965 Addenda only (A33) $1.00
1967 Addenda only (A36) $1.50
A40.4—1942 & A40.6—1943 Air Gaps and Backflow Preventers in Plumbing Systems (J6) $2.50
A40.5—1943 Threaded Cast Iron Pipe for Drainage, Vent and Waste Services (M22) $2.00
A40.8—1955 National Plumbing Code (L10) $2.00
A90.1-1969 Manlifts (B8) $3.00
A112.11.1—1968 Self-Contained, Mechanically Refrigerated Drinking Water Coolers (J39) $2.00
A112.18.1—1971 Finished and Rough Brass Plumbing Fixture Fittings (J29) $2.50
A112.21.1—1968 Floor Drains (J40) $2.00
A112.21.2—1971 Roof Drains (J2) $2.50
A112.26.1—1969 Water Hammer Arresters (K20) $2.50
A113.1—1964(R1971) Mechanized Parking Garage Equipment (M54) $4.50

SCREW THREADS, PIPE THREADS & CYLINDRICAL PARTS

B1.1—1960 Unified Screw Threads (M28) $6.00
B1.1a—1968 Unified Screw Threads—Metric Translation (M29) $3.50
B1.2—1966 Gages and Gaging for Unified Screw Threads (N58) $6.00
B1.7—1965 Nomenclature, Definitions and Letter Symbols for Screw Threads (L11) $2.75
B1.10—1958 Unified Miniature Screw Threads (N25) $2.00
B1.11—1958 Microscope Objective Thread (N20) $2.00
B1.12—1963 Class 5 Interference-Fit Thread (N32) $2.00
B2.1—1968 Pipe Threads (Except Dryseal) (L18) $4.25
B2.2—1968 Dryseal Pipe Threads (M36) $4.25
B2.4—1966 Hose Coupling Screw Threads (K14) $2.75
B4.1—1967 Preferred Limits and Fits for Cylindrical Parts (L22) $3.00

MACHINE TOOLS, COMPONENTS, ELEMENTS, PERFORMANCE & EQUIPMENT

B5.1—1949 T-Slots—Their Bolts, Nuts, Tongues and Cutters (M24) $2.00
B5.5—1959 Rotating Air Cylinders and Adapters (L31) $2.00
B5.8—1954(R1959) Chucks and Chuck Jaws (J24) $2.50
B5.9—1957 Spindle Noses for Tool Room Lathes, Engine Lathes, Turret Lathes and Automatic Lathes (M10) $3.50
B5.10—1963 Machine Tapers (L4) $3.50
B5.11—1964 Spindle Noses and Adjustable Adapters for Multiple Spindle Drilling Heads (M8) $2.00
B5.16—1952 Accuracy of Engine and Tool Room Lathes (J4) $2.00
B5.18—1960 Spindle Noses and Arbors for Milling Machines (M9) $2.00
B5.20—1958 Machine Pins (L3) $2.00
B5.25—1968 Die Sets (L27) $3.00
B5.28—1971 Mounting Dimensions of Lubricating and Coolant Pumps for Machine Tools (L9) $2.50
B5.32—1953 Designation and Working Ranges of Grinding Machines (J28) $2.00
B5.33—1970 External Cylindrical Grinding Machines—Plain (Revision of B5.33—1953) (M38) $2.50
B5.35—1969 Machine Mounting Specifications for Abrasive Discs and Plate Mounted Wheels (M35) $3.00
B5.37—1970 External Cylindrical Grinding Machines—Centerless (M39) $2.00
B5.38—1958 Driving and Spindle Ends for Portable Air and Electric Tools (N23) $2.00
B5.40—1968 Spindle Noses and Tool Shanks for Horizontal Boring Machines (M48) $3.00
B5.41—1968 Quill Flanges and Spindle Ends for Upright and Horizontal Drill Spindles for Production Type Drilling Machines (K18) $2.00
B5.42—1970 External Cylindrical Grinding Machines—Universal (M40) $2.25

GEARS & POWER-TRANSMISSION APPARATUS

B6.1—1968 Tooth Proportions for Coarse-Pitch Involute Spur Gears (M11) $2.00
B6.5—1954 Letter Symbols for Gear Engineering (K27) $2.00
B6.6—1946 Gear Tolerances and Inspection (K2) $2.00
B6.7—1967 Tooth Proportions for Fine-Pitch Involute Spur and Helical Gears (M26) $2.00
B6.9—1956(R1962) Design for Fine-Pitch Wormgearing (J26) $2.00
B6.10—1954 Gear Nomenclature (K1) $2.00
B6.11—1956 Inspection of Fine-Pitch Gears (K17) $3.50
B6.12—1964 Nomenclature of Gear-Tooth Wear and Failure (L12) $2.00
B6.13—1965 System for Straight Bevel Gears (M20) $2.00
B15.1—1953(R1958) Mechanical Power Transmission Apparatus (B9) $3.50

PIPE FLANGES & FITTINGS

B16.1—1967 Cast Iron Pipe Flanges and Flanged Fittings, 25, 125, 250 and 800 LB (J17) $3.50
B16.3—1971 Malleable-Iron Threaded Fittings, 150 and 300 LB (L5) $3.00
B16.4—1971 Cast Iron Threaded Fittings, 125 and 250 LB (J22) $3.00
B16.5—1968 Steel Pipe Flanges and Flanged Fittings (150, 300, 400, 600, 900, 1500 and 2500 LB) Including Reference to Valves (With Errata and Addenda) (M15/M17) $6.00
B16.5 a&b—1971 Addenda Only (M17) $1.00
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B16.18—1963 Cast Bronze Solder-Joint Pressure Fittings (With 1967 Addenda) (J15) $2.50 Addenda Only (J11) $.50
B16.20—1963 Ring-Joint Gaskets and Grooves for Steel Pipe Flanges (L30) $2.00
B16.21—1962 Nonmetallic Gaskets for Pipe Flanges (L15) $2.00
B16.22—1963 Wrought Copper and Bronze Solder-Joint Pressure Fittings (M30) $2.00
B16.23—1969 Cast Bronze Solder-Joint Drainage Fittings (M30) $2.00
B16.23—1969 Bronze Flanges and Flanged Fittings, 150 and 300 LB (J9) $2.00
B16.25—1964 Buttwelding Ends (J13) $2.00
B16.26—1967 Cast Bronze Fittings for Flared Copper Tubes (J8) $2.00
B16.27—1962 Plastic Insert Fittings for Flexible Polyethylene Pipe (L37) $2.00
B16.28—1964 Wrought Steel Buttwelding Short Radius Elbows and Returns (M35) $2.00
B16.29—1966 Wrought Copper and Wrought Copper Alloy Solder-Joint Drainage Fittings (N57) $2.50
B16.30—1969 Unfired Pressure Vessel Flange Dimensions (J27) $3.00
B16.31—1971 Nonferrous Pipe Flanges, 150, 300, 400, 600, 900, 1500 and 2500 LB (J42) $3.50

KEYS & FASTENERS

B17.1—1967 Keys and Keyseats (J38) $2.50
B17.2—1967 Woodruff Keys and Keyseats (J37) $2.50
B18.1—1965 Small Solid Rivets (M6) $3.00
B18.2.1—1965 Square and Hexagon Bolts and Screws (M44) $3.50
B18.2.2—1965 Square and Hexagon Nuts (M43) $3.50
B18.3—1969 Socket Cap, Shoulder and Set Screws (M7) $4.50
B18.4—1960 Large Rivets (K23) $2.50
B18.5—1971 Round Head Bolts (L32) $2.75
B18.6.1—1961 Slotted and Recessed Head Wood Screws (M5) $2.50
B18.6.2—1956 Hexagon and Slotted Head Cap Screws, Square Head Set Screws and Slotted Headless Set Screws (K12) $2.50
B18.6.3—1962 Slotted and Recessed Head Machine Screws and Machine Screw Nuts (M4) $4.75
B18.6.4—1966 Slotted and Recessed Head Tapping Screws and Metallic Drive Screws (N21) $5.25
B18.7—1966 General Purpose Semi-Tubular Rivets, Full Tubular Rivets, Split Rivets and Rivet Caps (N59) $2.50
B18.9—1958(R1971) Plow Bolts (L21) $2.50
B18.10—1963 Track Bolts and Nuts (M25) $2.50
B18.11—1961 Miniature Screws (K37) $2.50
B18.12—1962 Glossary of Terms for Mechanical Fasteners (M-46) $4.75
B18.13—1965 Screw and Washer Assemblies—SEMS (N43) $3.00
B18.15—1969 Forged Eyebolts (M37) $3.00
B18.17—1968 Wing Nuts, Thumb Screws and Wing Screws (J5) $3.00

CONVEYORS, FIRE-HOSE COUPLINGS, WASHERS & TRANSMISSION CHAINS

B20.1—1957 Conveyors, Cableways and Related Equipment (B4) $3.00
B26—1925(R1953) Fire-Hose Coupling Screw Thread (J34) $2.00
B27.1—1965 Lock Washers (L2) $3.00
B27.2—1965 Plain Washers (L19) $2.50
B27.4—1967 Beveled Washers (L6) $2.00
B27.5—1969 General Purpose Rectangular Uniform Section Retaining Rings (L23) $2.50
B29.2—1957(R1971) Inverted Tooth (Silent) Chains and Sprocket Teeth (M2) $3.00
B29.8—1958(R1971) Leaf Chain (M3) $3.00
B29.12—1968 Steel Bushed Rollerless Chains, Attachments and Sprocket Teeth (K30) $3.00

CRANES, DERRICKS, HOISTS, JACKS & SLINGS

B30.1—1943 Jacks (B7) $2.00
B30.2.0—1967 Overhead and Gantry Cranes (B11) $3.00
B30.5—1968 Crawler, Locomotive and Truck Cranes (B12) $3.00
B30.6—1969 Derricks (B13) $2.75
B30.7—1971 Base Mounted Drum Hoists (B2) $3.00
B30.8—1971 Floating Cranes and Floating Derricks (J23) $4.00

PIPING

Code for Pressure Piping, B31 Interpretations (M33)
Booklet containing cases in effect January 1, 1970.....$10.00
Subscription to Interpretations..... 4.00
Per Year..... 4.00
Three Years 9.00
Individual Cases (M34)..... 1.00
B31.1.0—1967 Power Piping (With 1971 Addendum) (N26/N37) $7.00
B31.1.0b—1971 Addendum only (Including B31.1.0a—1971) $2.00
B31.2—1968 Fuel Gas Piping (N33) $4.00
B31.3—1966 Petroleum Refinery Piping (N28) $6.00
B31.4—1971 Liquid Petroleum Transportation Piping Systems (N29) $5.75
B31.5—1966 Refrigeration Piping (With 1968 Addendum) (N30) $5.00 Addendum Only (N40) $.50
B31.7—1969 Nuclear Power Piping (Including B31.7a&b—1971 Addenda) (N48) $12.50
B31.7b—1971 & B31.7a—1971 Addenda only (N49) $3.75
B31.8—1968 Gas Transmission and Distribution Piping Systems (With 1969 Addendum) (J35) $8.00
B31.8b—1969 Addendum only (J41) $2.00

SURFACE FINISH, PIPE, GAUGES, V-BELT DRIVES & INDUSTRIAL TRUCKS

B32.1—1952(R1968) Preferred Thickness for Uncoated, Thin, Flat Metals (Under 0.250 in.) (L25) $2.00
B32.2—1969 Preferred Diameters for Round Wire—0.500 inches and under (M12) $2.00
B36.10—1970 Wrought Steel and Wrought Iron Pipe (M31) $2.75
B36.19—1965 Stainless Steel Pipe (M13) $2.00
B40.1—1968 Gauges: Pressure and Vacuum, Indicating Dial Type—Elastic Element (K15) $2.50
B46.1—1962(R1971) Surface Texture (M19) $3.00
B55.1—1961 Specification for Multiple V-Belt Drives (M42) $2.50
B56.1—1969 Safety Standard for Powered Industrial Trucks (B6) $4.50

CUTTING TOOLS, HOLDERS, DRIVES & BUSHINGS

B94.1—1969 Blanks and Semi-Finished Blanks for Solid Carbide Taps (M55) $2.50
B94.2—1964(R1971) Reamers (L28) $2.80
B94.3—1965 Straight Cut-Off Blades for Lathes and Screw Machines (M56) $2.00
B94.4—1965 Identification System for Throw-Away Inserts for Cutting Tools (M57) $2.00
B94.5—1966 Carbide Blanks and Cutting Tools (N18) $3.50
B94.6—1966 Knurling (K22) $2.50
B94.7—1966 Hobs (N56) $3.00
B94.8—1967 Inserted Blade Milling Cutter Bodies (K44) $2.00
B94.9—1971 Taps—Cut and Ground Threads (K43) $6.00
B94.10—1967 High-Speed Steel and Cast Non-Ferrous Single-Point Tools and Tool Holders (N34) $2.00
B94.11—1967 Twist Drills (M27) $3.50
B94.12—1968 Carbide-Tipped Masonry Drills and Blanks for Carbide-Tipped Masonry Drills (L13) $2.00
B94.13—1968 Blanks for Carbide Burs (J20) $2.50
B94.14—1968 Punches—Basic Head Type (K52) $2.50
B94.16—1968 Retainers—Basic Ball-Lock, Punch and Die Button Light and Heavy Duty (K54) $2.50
B94.17—1968 Gages—Functional, Ball-Lock Punches, Die Buttons and Retainers (K57) $2.50
B94.18—1968 Punches—Basic Ball-Lock Light and Heavy Duty (K55) $3.00
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B94.25—1969 Indexable (Throw-away) Inserts for Cutting Tools (L38) $4.00
B94.26—1969 Indexable (Throw-away) Insert Holders (L39) $4.25
B94.27—1970 Die Buttons—Basic Taper Relief, Press Fit (M41)
B94.28—1970 Die Buttons—Basic Straight Relief, Press Fit (M45) $3.25
B94.29—1970 Die Buttons—Basic Ball Lock (M59) $3.25
B94.30—1970 Die Buttons—Variable, Press Fit (M60) $3.25
B94.31—1969 Steel Rotary Slitting Knives and Steel Spacing Collars (K61) $2.00

B94.32—1954(R1971) Circular & Dove Tailed Forming Tool Blanks (Redesignation of B5.7—1954) (J25) $2.50
B94.33—1962(R1971) Jig Bushings (Redesignation of B5.6—1962) (K21) $3.50
B94.34—1946(R1971) Life Tests of Single Point Tools (Redesignation of B5.19—1946) (L1) $2.00
B94.35—1959(R1971) Drills Drivers (Redesignation of B5.27—1959) (J30) $2.00
B94.36—1956(R1971) Life Tests for Single-Point Tools of Sintered Carbide (Redesignation of B5.34—1956) (M32) $2.00

AUTOMATIC CONTROL, MATERIALS HANDLING STANDARDS & NUCLEAR SAFETY CODES

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MH1—1965 Pallet Terminology and Sizes (M58) $4.00
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Y10.2—1958 Letter Symbols for Hydraulics (K29) $2.00
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Y10.11—1953(R1959) Letter Symbols for Acoustics (K24) $2.00
Y10.12—1955 Letter Symbols for Chemical Engineering (K26) $2.50
Y10.14—1959 Letter Symbols for Rocket Propulsion (K35) $3.00
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Y32.18 Symbols for Mechanical and Acoustical Elements as Used in Schematic Diagrams 1968 Draft (K11) $1.00
Z32.2.3—1949(R1953) Graphical Symbols for Pipe Fittings, Valves and Piping (K6) $2.00
Z32.4.2—1949(R1953) Graphical Symbols for Heating, Ventilating and Air Conditioning (K5) $2.00
Z32.2.6—1950(R1956) Graphical Symbols for Heat-Power Apparatus (K4) $2.00

ASME Codes

PERFORMANCE TEST CODES

PTC 1—1970 General Instructions (With 1971 Addendum) $4.00
PTC 2—1971 Code on Definitions and Values. $4.50
PTC 3.1—1958 (R1970) Diesel and Burner Fuels. $5.75
PTC 3.2—1954 (R1970) Solid Fuels. $4.75
PTC 3.3—1969 Gaseous Fuels. $7.50
PTC 4.1—1964 Steam-Generating Units (With 1968 and 1969 Addenda). $6.75
PTC 4.2—1969 Coal Pulverizers. $3.50
PTC 4.3—1968 Air Heaters. $4.75
PTC 5—1949 Reciprocating Steam Engines. $2.50
PTC 6—1954 Steam Turbines (With 1968 Addendum). $5.50
PTC 6A—1964 Appendix A to Test Code for Steam Turbines (With 1968 Addendum). $5.50
PTC 6 Report—1969 Guidance for Evaluation of Measurement Uncertainty in Performance Tests of Steam Turbines. $4.25
PTC 6S Report—1970 Simplified Procedures for Routine Performance Tests of Steam Turbines. $7.50
PTC 7—1949 (R1969) Reciprocating Steam-Driven Displacement Pumps. $2.00
PTC 7.1—1962 (R1969) Displacement Pumps. $3.50
PTC 8.2—1965 Centrifugal Pumps (With 1969 Addendum). $4.50
PTC 9—1970 Displacement Compressors, Vacuum Pumps and Blowers. $5.00
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PTC 12.1—1955 Feedwater Heaters. $3.50
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PTC 20.1—1958 Speed-Governing Systems for Steam Turbine-Generator Units. $4.50
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PTC 32.1—1969 Nuclear Steam Supply Systems. $4.50
PTC 34 Draft (June 1970) Draft ASME Code for In-Service Testing of Valves in Nuclear Power Plants. $2.00
PTC 35 Draft (April 1970) Draft ASME Code for In-Service Testing of Pumps in Nuclear Power Plants. $2.50

INSTRUMENTS AND APPARATUS

PTC 19.2—1964 Pressure Measurement. $6.50
PTC 19.3—1961 Temperature Measurement. $7.00
PTC 19.5.1—1964 Weighing Scales. $3.25
PTC 19.5.2—1966 Volumetric (Displacement) Meters. $6.00
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PTC 19.5.5—1966 Special Methods of Flow Measurement. $6.50
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PTC 19.13—1961 Measurement of Rotary Speed. $3.50
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PTC 19.16—1965 Density Determinations of Solids and Liquids. $3.25
PTC 19.17—1965 Determination of the Viscosity of Liquids. $3.50
The Philosophy of Power Test Codes and Their Development. $2.00
PTC 19.20—1971 Smoke-Density Determinations (D19) $3.50

ASME Standards

APS—1 Recommended Guide for the Control of Dust Emissions—Combustion for Indirect Heat Exchangers. 1968. $2.50; Discussion on ASME Standard APS—1. 1967. $2.50
APS—2 Recommended Guide for the Control of Oxides of Sulfur (With Supplement). 1970. $3.00 (Supplement only. $1.00)
No. 101 Operation and Flow Process Charts. 1949. $2.50
No. 102 Form for Use in Self-Appraisal of Industrial Plants. 1947. $2.50
No. 104 One-Piece Metallic Piston Rings. 1954. $2.00
No. 111 Recommended Practices for the Design of Marine Propulsion Turbine Lubricating Systems. 1960. $2.00
No. 112 Diaphragm Actuated Control Valve Terminology. 1961. $2.00
No. 113 Recommended Practices for the Flushing and Cleaning of Marine Propulsion Turbine Lubricating Systems. 1964. $2.00
No. 114 Recommended Practices for the Purification of Marine Propulsion Turbine Lubricating Oil. 1964. $2.00
No. 115 Recommended Practices for the Design, Operation and Maintenance of Marine Auxiliary Machinery Lubricating Systems. 1968. $3.50
No. 115 D Recommended Practices for the Design of Lubricating Systems for Marine Steam Turbine Pumps for Various Ships Services. 1969. $2.50
No. 116 Recommended Practices for the Design of Steam Turbine Generator Oil Systems. 1968. $2.50
No. 117 Recommended Practices for the Cleaning of Steam Turbine Generator Oil Systems. 1968. $12.50
No. 118 Recommended Practices for the Purification of Steam Turbine Generator Oil. 1968. $2.50
No. 119 Recommended Practices for the Flushing and Cleaning of Marine Auxiliary Machinery Lubricating Systems. 1968. $2.50
No. 120 Recommended Practices for the Design of Gas Turbine Generator Lubricating Oil Systems. 1969. $2.50
No. 121 Recommended Practices for the Purification of Lubricating Oil in Marine Steam Turbine Driven Auxiliary Machinery. 1969. $2.50
LOS—2C1 ASTM-ASME Recommended Practices for the Flushing and Cleaning of Lubricating Systems of Various Turbine Driven Pumps for Marine Service. $3.00
LOS—4C1 ASTM-ASME Recommended Practices for Flushing and Cleaning of Gas Turbine Generator Lubricating Oil Systems. $3.00
LOS—5C1 ASTM-ASME Recommended Practices for the Flushing and Cleaning of Oil Systems for Lubrication and Control of Hydroelectric Equipment. $3.00
LOS—5D1 ASTM-ASME Recommended Practices for the Design of Oil Systems for Lubrication and Control of Hydroelectric Equipment. $3.00
LOS—5P1 ASTM-ASME Recommended Practice for the Purification of Oil Systems for Lubrication and Control of Hydroelectric Equipment. $3.00
TWDPS-1 Recommended Practices for the Prevention of Water Damage to Steam Turbines Used for Electric Power Generation: Part I—Fossil Fueled Plants. $3.50
Draft ASME Code for Pumps and Valves for Nuclear Power (With 1970 Addenda). 1968. $5.00 (Addenda only. $2.00)
ASME Guide for Gas Transmission and Distribution Piping Systems—1973 (With 3-year subscription to Supplements) $50.00

Books and Reports

APPLIED MECHANICS

Applications of Holography in Mechanics. 1971. $7.50
Applied Mechanics Aspects of Nuclear Effects in Materials. 1971. $20.00
Applied Mechanics Surveys. 1966. $37.50
Behavior of Materials Under Dynamic Loading. 1965. $10.00
Computational Approaches in Applied Mechanics. 1969. $19.50
Dynamic Response of Biomechanical Systems. 1970. $15.00
Dynamics of Structured Solids. 1968. $7.00
Experimental Techniques in Shock and Vibrations. 1962. $9.00
Fluid-Solid Interaction. 1967. $13.50
Mathematical Theory of Dislocations. 1969. $16.50
Proceedings of the U. S. National Congress of Applied Mechanics. $12.50; (6th—1970. $10.00; 5th—1966. $21.00; 4th—1962. $44.00; 2nd—1955. $22.00)
Surface Mechanics. 1969. $13.00
Synthesis of Vibrating Systems. 1971. $15.00
Use of Models and Scaling in Shock and Vibration. 1963. $7.00
Wave Propagation in Solids. 1969. $13.50

AVIATION/TRANSPORTATION

Annals of Reliability and Maintainability. 1971. $25.00
Freight Car Impact—Volume 1 Anthology of Rail Vehicle Dynamics. 1971. $20.00
Fifth International Forum for Air Cargo. 1970. $12.50
1968 Aviation & Space Conference Proceedings—"Progress and Prospects." 1968. $28.00
Deep Space and Missile Tracking Antennas. 1966. $4.50
Defining Transportation Requirements—1968 Transportation Engineering Conference. 1969. $17.50
1966 National Transportation Symposium. 1966. $22.50
1971 Rail Transportation Proceedings. 1971. $20.00
1970 Rail Transportation Proceedings. 1970. $19.00
Reliability and Maintainability (Reprinted from MECHANICAL ENGINEERING). 1966. $2.00
1968 Reliability and Maintainability Conference Proceedings—"Annals of Assurance Sciences." 1968. $27.00
Space Systems and Thermal Technology for the 70's. (Aviation & Space Papers—Part I. 1970. $45.00; Heat Transfer Papers—Part II. 1970. $45.00)
Urban Engineering and Transportation. 1969. $8.75

BIOMECHANICS

1967 Biomechanical and Human Factors. 1967. $9.25
Biomechanics. 1966. $10.50
Biomechanics Monograph. 1967. $11.00
Biomedical Fluid Mechanics. 1966. $12.50

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Control of Distributed Parameter Systems. 1969. $5.00
Differential Games: Theory and Applications. 1970. $6.00
Dynamics of Automated Controls. 1948. $7.00
Frequency Response. 1956. $8.50
1970 Joint Automatic Control Conference. 1970. $30.00
1965 Joint Automatic Control Conference. 1965. $25.00
Stochastic Problems in Control. 1968. $5.75
Stochastic Processes in Dynamical Problems. 1969. $13.00

DESIGN

A Product Design Through the Engineering Analysis of its End Use. 1967. $4.00
Design Engineering Conference. 1960—$6.00. 1959—$6.00
Design for Elevated Temperature Environment. 1971. $7.50
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Flexible Rotor-Bearing System Dynamics. Part I—Critical Speeds and Response of Flexible Rotor Systems. 1972. $5.00 Part II—Bearing Influence and Representation in Rotor Dynamics Analysis. 1972. $3.50
New Design Standards for Flexible Couplings. 1966. $3.50
Physics of Fiber Contact. 1970. $3.75

FLUID/FLOW

Advances in Fluidics (With Discussion Booklet). 1967. $22.00 (Discussion only. $2.00)
Cavitation in Fluid Machinery (With Discussion Booklet). 1965. $16.00 (Discussion only. $2.50)
Cavitation Forum. 1971. $5.50; 1970 (With 1969 Discussion Booklet) $5.50; 1969. $4.00; 1968. $2.50; 1967. (With Discussion Booklet) $3.50; 1966. $2.00
Cavitation Research Facilities and Techniques (Including Discussions). 1964. $12.50
Cavitation State of Knowledge (With Discussion Booklet). 1969. $18.50 (Discussion only. $2.50)
Flow Measurement Symposium. 1966. $18.00
Flow-Induced Vibration in Heat Exchangers. 1970. $12.00
Flowmeter Computation Handbook. 1961. $12.50
Fluid Dynamic Measurements. 1971. $17.50
Fluid Jet Control Devices. 1962. $8.50
Fluid Meters, Their Theory and Application. 1971. $20.00
Application—Part II of Fluid Meters: Interim Supplement 19.5 on Instruments and Apparatus. 1972. $12.00
Fully Separated Flows. 1964. $8.50
Measurement in Unsteady Flow. 1962. $8.50
Multi-Phase Flow. 1963. $7.50
1972 Polyphase Flow Forum. 1972. $6.00
Pumping Machinery for Marine Propulsion (With Discussion Booklet). 1970. $22.00 (Discussion only. $2.00)
Rheology. 1965. $9.75
Role of Nucleation in Boiling and Cavitation (With Discussion Booklet). 1970. $22.00 (Discussion only. $2.00)
Water Hammer. 1933. $5.00
Water Hammer in Hydraulics and Wave Surges in Electricity. 1961. $15.00
Water Hammer in Pumped Storage Projects. 1965. $13.00

HEAT TRANSFER

Survey of Nucleonic Heat Transfer—Volume 1. 1971. $5.00
Spent Nuclear Fuel Heat Transfer—Volume 2. 1971. $6.00
Recent Developments in Thermophysical Properties Research—Volume 3. 1971. $3.50
Environmental and Geophysical Heat Transfer—Volume 4. 1971. $15.00
Heat Transfer in Low Reynolds Number Flow—Volume 5. 1971. $8.00
Advances in Thermophysical Properties at Extreme Temperatures and Pressures. 1965. $19.00
Augmentation of Convective Heat and Mass Transfer. 1970. $21.00
Environmental Effects of Thermal Discharges—The Elements of Formulating a Rational Public Policy. 1970. $8.00
Fifth Symposium on Thermophysical Properties. 1970. $18.75
Fourth Symposium on Thermophysical Properties. 1968. $25.00
Heat Transfer in Rod Bundles. 1968. $8.50
International Developments in Heat Transfer. 1963. $40.00
Liquid-Metal Heat Transfer and Fluid Dynamics. 1970. $23.50

Progress in Int'l Research on Thermodynamic and Transport Properties. 1962. $24.00
Thermal Problems in Biotechnology. 1968. $7.50
Thermodynamic and Transport Properties of Gases, Liquids and Solids. 1959. $12.50
Transport Phenomena in Atmospheric and Ecological Systems. 1967. $3.50
Two-Phase Flow & Heat Transfer in Rod Bundles. 1969. $11.00
Two-Phase Flow Instrumentation. 1969. $9.50

INCINERATION/AIR POLLUTION

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Hampton, Robert K. receives Fellow ASME certificate **F 84**

Hamrock, B. J. Optimization of Conical Hydrostatic Bearing for Minimum Friction [71-Lub-19] (*A*) **Ja 48**

Hancox, W. T. Void Determination in Two-Phase Systems Employing Neutron Transmission [72-HT-2] (*A*) **S 52**

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Hansen, J. P. Rotary Compressors as Ideal Vapor Recovery Machines [72-Pet-18] (*A*) **N 66**

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Harada, Y. Hot Corrosion of Gas Turbine Rotor Blade Materials Due to a Long Term Field Testing [72-GT-87] (*A*) **Jl 50**

Harding, Walter L. elected Fellow ASME **Ja 104**

Hardy, G. The ST6 Vehicular Experience [72-GT-72] (*A*) **Je 57**

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Harms, A. A. Void Determination in Two-Phase Systems Employing Neutron Transmission [72-HT-2] (*A*) **S 52**

Harris, A. B. The Power Dilemma (*C*) **Mr 62**

Harris, E. H. The Effect of the Contents of the Human Red Blood Cell on Its Deformability [71-WA/BHF-1] (*A*) **My 57**

Harris, H. D. An Elastohydrodynamic Analysis of the Sleeve Type High Pressure Seal [72-Lub-M] (*A*) **O 66**

Harris, T. A. How to Apply Life Adjustment Factors for Ball and Roller Bearings [72-DE-29] (*A*) **Jl 61**

Harrison, D. E. Ceramics in Industrial Gas Turbines [72-GT-94] (*A*) **Jl 50**

Harrison, Howard L. receives 1971 Charles Russ Richards Memorial Award **Ja 78**

Hart, W. S. Dynamics of Large Buoyant Clouds Generated by Rocket Launches [71-WA/FE-33] (*A*) **Ap 63**

Hartung, W. H. An Automated Instrument for Monitoring the Quality of Recovered Water [72-ENAv-16] (*A*) **O 62**

Hashemi, H. T. Design of Running Film Plate LNG Vaporizers [72-Pet-34] (*A*) **N 68**

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Hastie, E. Fluidic Sensing of Rotational Speed Using Spur Gears [72-Flcs-6] (*A*) **Je 64**

Hata, T. Relief of Stresses in a Hollow Circular Disk with Heated Stamps on the External Surface Through Creep [72-APM-M] (*A*) **O 66**

Hatcher, J. D. Characterization of Textile Effluents [71-Tex-3] (*A*) **F 44**

Hatsopoulos, G. N. A Study of the Liquid–Vapor Phase Change of Mercury Based on Irreversible Thermodynamics [72-HT-A] (*A*) **O 70**

Hawley, R. H. The Deformation of Lead in Torsion at High Strain Rates [72-APM-S] (*A*) **S 60**

Hawn, R. G. Electric Locomotives (*C*) **D 65**

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Hawthorne, V. T. Hydraulic Draft Gear for Locomotives [71-WA/RT-1] (*A*) **Mr 48**

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Hayashi, Kunikazu Surface Temperature and Scoring Resistance of Heavy-Duty Gears [72-PTG-22] (*A*) **D 54**

Hayes, J. F. deceased **F 84**

Hayes, James L. is 1971 Henry Robinson Towne Lecturer **Ja 75**

Hayes, L. W. deceased **D 99**

Hays, D. F. The Crowned Circular Slider Bearing: Analysis and Test [71-Lub-5] (*A*) **Ja 46**

Hazard, H. R. NO_x Emission from Experimental Compact Combustors [72-GT-108] (*A*) **Jl 53**

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Head, T. W. Program Management in the Diesel Business—Some Start-Up Decisions [71-WA/Mgt-7] (*A*) **Ap 64**

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Heat Transfer, Journal of
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Heggs, P. J. Design of the Thermal Distribution in a Reactor Vessel Wall Resulting in Acceptable Thermal Stresses [71-WA/HT-23] (*A*) **F 53**
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Hengel, M. F. Brake-System Operation and Testing Procedures and Their Effects on Train Performance [71-WA/RT-9] (*A*) **Mr 50**
Hensel, R. P. Coal-Ash Composition as Related to High-Temperature Fireside Corrosion and Sulfur-Oxides Emission Control [71-WA/CD-4] (*A*) **F 48**
Henson, E. B. Mathematical Modeling of Nuclear Plant Thermal Effects in Lake Champlain [71-WA/Pwr-4] (*A*) **Ap 69**
Henz, D. J. Emission Regulations for Fuel-Burning Installations—Effect of the Clean Air Act [71-WA/APC-2] (*A*) **My 59**
Hepworth, H. K. Laminar Flow of an Incompressible Fluid in a Conduit with Arbitrary Cross Section, Arbitrary Time-Varying Pressure Gradient, and Arbitrary Initial Velocity [71-WA/FE-22] (*A*) **Mr 60**
Herrala, T. W. Requirements Impact on the Shuttle ETC/LSS [72-ENAv-18] (*A*) **O 62**
Herrick, R. L. Considerations of Emission Control Methods and Devices for Stationary Sources [71-WA/Fu-5] (*A*) **My 61**
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1971 recipient is Dudley Dean Fuller **Ja 73**
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Hesler, L. J. A Generalized Integral Computation Technique for Nonequilibrium Compressible Turbulent Boundary Layers Using Moment Equations [71-WA/APM-12] (*A*) **Ap 73**
Hesse, A. deceased **O 101**
Hessmann, G. Dan ASME-NSPE Affiliate (*C*) **Ap 76**
Hetu, Thomas P. elected Fellow ASME **Mr 96**
Heuser, Henry V. elected Fellow ASME **Ja 104**; receives Fellow certificate **Ap 104**
Hewitt, G. F. Overall Viewpoint of Flow Boiling CHF Mechanisms [72-HT-54] (*A*) **S 56**
Heyt, J. W. Evaporation and Liquid Film Dry-Out in Binary Spray Flow [72-HT-30] (*A*) **S 55**; Thermal Protection of Wellbore Casings [72-Pet-1] (*A*) **N 64**
Hiccox, A. W. deceased **Ag 99**
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Hocke, H. Wear-Resistant Materials for Steelworks Plant Handling Coke and Sinter [72-MH-9] (*A*) **D 58**
Hodgeman, H. H. Reliability of Inertia Welded Pressure Piping Components [72-Pet-28] (*A*) **N 67**
Hodography
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Hoeg, J. G. Effects of Cold Working Under Pressure on Subsequent Yield [71-WA/PT-6] (*A*) **Ap 66**
Hoelzer, C. A. Cycle Flexibility: Its Impact on V/STOL Tactical Aircraft Propulsion Systems [72-GT-105] (*A*) **Jl 52**
Hoffman, H. T. deceased **N 103**
Hogland, G. H. Designs of a Bistable Fluid Device for Transporting Solid Particles [72-MH-27] (*A*) **D 60**; Flow of Particles in a Bistable Fluid Device [72-MH-28] (*A*) **D 60**
Hohnholt, F. F. deceased **Mr 97**
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Holiday, George H. elected Fellow ASME **My 104**; receives Fellow certificate **Ag 98**
Hollands, K. G. T. Natural Convection in Horizontal Thin-Walled Honeycomb Panels [72-HT-60] (*A*) **S 57**
Hollerith, C. deceased **N 103**
Hollowness
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Hollyer, J. H. deceased **N 103**
Holmes, John F. Tuned Floating Platform for Offshore Power Facilities [based on 71-WA/Ener-5] **O 37**; Tuned Floating Platform for Off-Shore Siting of Bulk Power Facilities [71-WA/Ener-5] (*A*) **Ap 62**
Holmes, R. F. Bosch CO_2 Reduction Unit Research and Development [72-ENAv-10] (*A*) **O 61**
Holmes, V. H. Diesel and Gas Engine Power Costs and Trends [72-DGP-13] (*A*) **Jl 56**
Holocamera
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3-D Parts Analysis [BTR] **F 32**
A Unitized and Portable Holographic Interferometer [72-HT-10] (*A*) **S 53**
Vibration Analysis by Holography [based on 71-Vibr-105] **Je 26**
Holzbock, Werner G. elected Fellow ASME **Ja 104**
Holzwarth, H. T. Proposed Gas Turbine Procurement Standard: Gaseous and Liquid Fuels [71-WA/GT-3] (*A*) **Ja 52**
Homes, Andre G. Lateral Pressures of Granular Material in Silos [72-MH-30] (*A*) **D 61**
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ASME Medal, 1971, to Horace Smart Beattie **Ja 79**
ASME President's Award of Merit presented to Richard M. Nixon and Edward E. David, Jr. **Jl 99**, to Henry M. Jackson **Ag 74**
Blackall [Frederick S., Jr.] Machine Tool and Gage Award, 1971, to William P. Koster and Louis J. Fritz **Ja 73**
Design Problem Contest Award, 1970–1971, to Barry T. Baker **Ja 79**
Diesel and Gas Engine Power Award presented to R. Rex Robinson at 1972 DGP Conference **Jl 96**
Eckman [Donald P.] Award to Be Granted at '72 Joint Automatic Control Conference [NR] **F 64**
Freeman [John R.] Scholar Award recipients and lecturers, 1971: Jack W. Hoyt and Ronald F. Probstein **Ja 79, Ja 88**
Fritz [John] Medal Board of Award Selects Lyman Dwight Wilbur for 1973 [NR] **Jl 75**; 1971 Medal to William Webster **Ja 79**
Gantt [Henry Laurence] Memorial Gold Medal of 1971 goes to D. C. Burnham [NR] **Ap 83**
Gas Turbine Division of ASME presents Power Award for 1970 to J. L. Kerrebrock and A. A. Mikolajczak **Je 91**
Guggenheim [Daniel] Medal, 1972, to William C. Mentzer, posthumously **Ag 85**
Heat Transfer Division Memorial Awards, 1971, to B. T. Chao and Harold A. Johnson **Ja 74**
Hersey [Mayo D.] Award
1971 award to Dudley Dean Fuller **Ja 73**
1972 award to Sydney J. Needs at International Lubrication Conference, 1972 **D 90**
Hoover Medal
1971 Medal to Luis A. Ferre **Ja 80**; Vice-President Agnew Presents Governor Luis A. Ferre of Puerto Rico, ASME Fellow, with Hoover Medal **Ap 98**
Knapp [Robert T.] Award, 1971, presented by ASME Fluids Engineering Division to P. N. Shankar **Je 91**
Lawrence [Ernest Orlando] Memorial Award Nominations for Ernest Orlando Lawrence Memorial Award Solicited **Jl 100**
Lubrication Conference (1972 International) Best Paper Award presented to Herbert S. Cheng **D 90**
Machine Design Award, 1971, to Walter L. Starkey **Ja 75**
Mackey [Guerard] Best Paper Award presented to James K. Jordan at PEM Division Conference, 1972 **D 85**
Main [Charles T.] Award
1971 award to James M. Singleton **Ja 78**
1972 Award and Certificate to Harold Chapin Lowe **S 29, 31**
Melville [George W.] Medal, 1971, to Thomas Slot **Ja 73**
Moody [Lewis F.] Award, 1971, presented by ASME Fluids Engineering Division to H. Ito and K. Nambu **Je 91**
Offshore Technology Conference, 1972
Distinguished Achievement Awards
Companies, Organizations, or Institutions: S.S. *Manhattan* Project of Humble Oil & Refining Co. [NR] **Jl 69**
Individuals: Offshore Drilling Unit Designs of Jerome L. Goldman [NR] **Jl 69**
Oldenburger [Rufus] Medal, 1971, to Charles Stark Draper **Ja 73**
Old Guard Prize Competition, 1971, won by James Lee **Ja 87**
Pi Tau Sigma Gold Medal, 1971, to James R. Rice **Ja 78**
Prime Movers Committee Award (1972) to George S. Liao and Paul Leung **N 85, 88**
Richards [Charles Russ] Memorial Award, 1971, to Howard L. Harrison **Ja 78**
Sawyer [R. T.] Award, 1972, presented by ASME Gas Turbine Division to first recipient, R. T. Sawyer **Je 91**
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